

**Motoring Guide
to the
SOUTH RIM
of
CANYON DE CHELLY**

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A MOTORING GUIDE TO THE SOUTH RIM OF CANYON DE CHELLY

This guide will help you to recognize and understand some of the features of the area. The staff of Canyon de Chelly National Monument are here to help you. We invite your questions and comments.

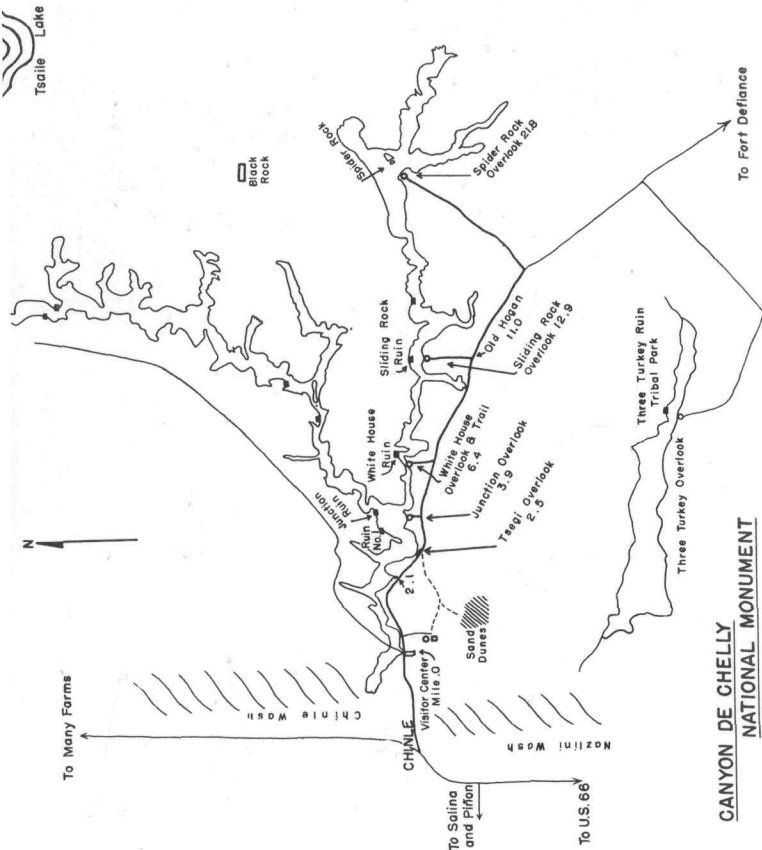
Please remember, you will be traveling adjacent to deep canyons having vertical walls. Use extra caution when approaching the canyon rim. Control children and pets. A fall would probably be fatal.

Also remember, "that any person or persons who injure or destroy or, without specific authority from the Secretary of the Interior, excavate or appropriate any historic or prehistoric ruin, monument, object of antiquity, or of scientific interest, for the protection of which this reservation was created will be subject to arrest and punishment under the provisions of the act of Congress approved June 8, 1906," known as the *Antiquities Act*.

MILE 0 — Visitor Center

We suggest you begin your tour of Canyon de Chelly National Monument by spending a few minutes in the Visitor Center exhibit room. Ideas concerning the human occupation of the Canyon de Chelly area during the past 2,000 years are presented here.

All mileages listed are from the Visitor Center parking lot, and from here you should follow the directional signs to the RIM DRIVE.



The United States Department of the Interior and the National Park Service welcome you to Canyon de Chelly National Monument. We hope you enjoy your visit here.

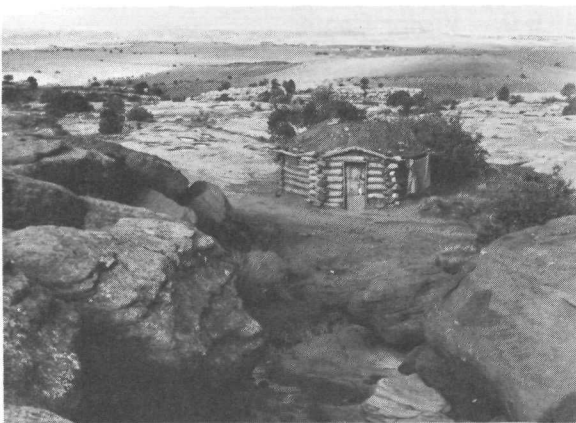
MILE 2.1 — *First Pullout (left side of road)*

The canyon at this point is about 275 feet (84m) deep. Note how the various layers of rock in the small side canyon compare to the diagram of geological strata in Canyon de Chelly (center fold). The formations reflect a story of past environmental changes in this region, varying from moist flood-plains to Sahara-like deserts. Though rocks seen here are very old, Canyon de Chelly represents a recent geological development (less than 3 million years old). Prior to the uplift of this region, between 3 million and 6 million years ago, streams flowed westward out of the Chuska Mountains and meandered over a fairly flat plain. As the Defiance Plateau gradually rose, the grade of the streams increased and the more rapid flow carried boulders and sediment which cut the canyon at the same pace the area was being uplifted. Twists and turns of the canyon represent the original meanders of the "pre-uplift" stream.

MILE 2.5 — *Tsegi Overlook*

The many-sided Navajo homes, called HOGANS, seen on the rim and in the canyon rep-

Navajo Hogan near rim of Canyon de Chelly.



resent the traditional architectural style of the Navajo common in the late 1800's. The Navajo home and farm in the canyon bottom below this overlook is occupied during warm weather. Horses and sheep are grazed in the canyon, and a few crops such as corn, squash, peaches, and apples are raised.

The water table in the canyon is very high, and it is only necessary to dig a few feet into the sand, even during the driest part of the year, to find water. During summer months the Rio de Chelly only runs on the surface following heavy thunderstorm activity. Through winter and spring months the river runs quite constantly, due to snow melt in the nearby Chuska Mountains.

Most Navajo families abandon the canyon during the cold winter months and move to the rim, where it is warmer and where a fuel supply for their home fires is available from the surrounding forests. Also, many families move to the rim so their children may more easily attend school in the fall.

The Navajo Tribe owns all the land in this part of Arizona, including that within the boundaries of Canyon de Chelly National Monument. We are guests here of the Navajo people, and we must respect their property rights and their right to privacy. As in any other community, one does not enter any house without an invitation from the owner.

Across the road from the overlook, at a distance of about 1/2 mile (805m), you can see an area of sand dunes. It was from such dunes that the de Chelly sandstone formed many millions of years ago.

MILE 3.9 — Junction Overlook

On the far side of the canyon to your left is "FIRST RUIN," the first Anasazi (prehistoric pueblo people) pueblo described by Cosmos Mindeleff, an archeologist who visited Canyon de Chelly in 1882. This dwelling contains ten rooms and two kivas (ceremonial rooms), and, like most other ruins of this type, was occupied some time between the late 1000's and the late 1200's.

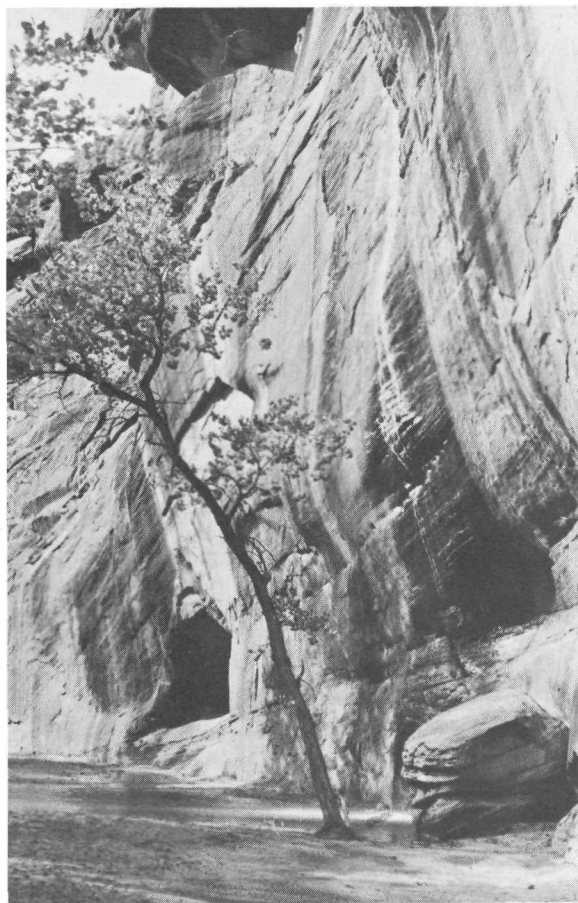
Straight ahead, on the far side of the canyon, is JUNCTION RUIN. It is located at the junc-



"Junction Ruin."

tion of Canyon del Muerto and Canyon de Chelly, and has 15 rooms and one kiva. Almost all cliff ruins are on the north side of the canyon where they receive sunlight for warmth, particularly in the winter.

Plants growing here on the rim at Junction Overlook are different from those growing near the Visitor Center and in the campground because of the difference in elevation, soil conditions, available water, and other factors. The large river bank Cottonwoods below are in an environment similar to that of the Visitor Cen-



Cottonwood trees grow in the bottom of Canyon de Chelly where water is plentiful.

ter area and quite different from this overlook locale. Exposure also has its effect. A north facing slope has a cooler climate than does a south facing slope.

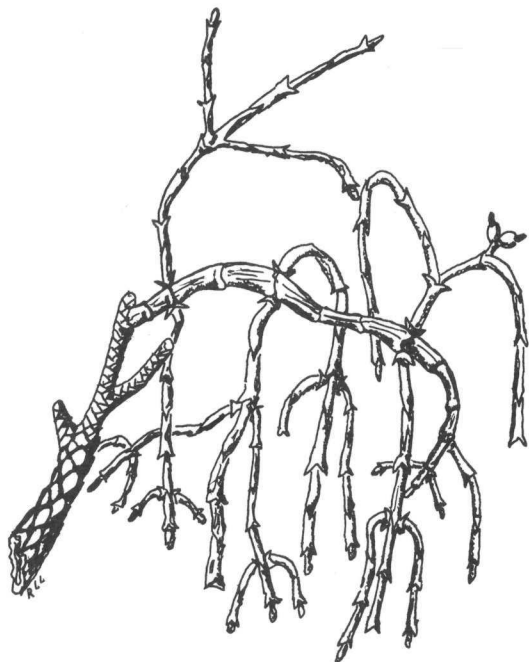
These conditions favor different types of plants and result in producing different vegetative covers. Some plants require *very* specific habitats, like the mistletoe growing on some of the nearby juniper trees.

On some of the following pages, (and after the center-fold geology diagram chart) are a



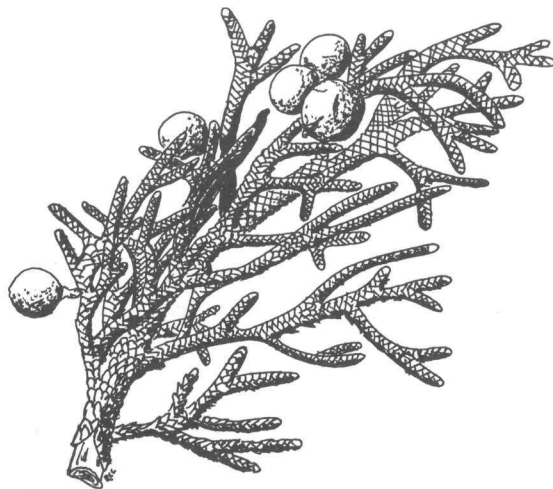
Fremont Cottonwood (*Populus fremontii*)

This species produces great quantities of pollen and downy seeds. Roots are used in making Kachina dolls, and inner bark to prevent and treat scurvy. Trees grow 50 (15 m), sometimes 100 feet (30 m) high, with trunk diameter up to 4 feet (1.2 m).



Mistletoe (*Phoradendron juniperinum*)

Juniper mistletoe is a parasitic plant which contributes nothing to its host. Hopi Indians brew a medicinal tea from its yellowish or light brown stems. Look for it growing among Juniper stems.



Utah juniper (*Juniperus utahensis*)

Juniper provides fiber for cordage, sandals, and matting; wood for fuel and fenceposts; and medicines are made from the leaves.

It grows ordinarily as a small, conical tree 10 (3 m) to 15 feet (4.5 m) high, with a definite trunk, and occurs in northern Arizona at elevations ranging from 3,000 (915 m) to 7,500 feet (2287 m).



Alderleaf Mountain-mahogany (*Cercocarpus montanus*)

Mountain-mahogany has extremely hard and heavy wood. It is used for digging sticks, and distaffs for spinning. A red-brown dye is made from the root bark.

The plant is found at 4,500 (1372 m) to 7,000 feet (2135 m) altitude, with pinyons and junipers.

Geological Strata of Canyon de Chelly

CHINLE FORMATION

A highly colored, thin, soft, sandstone of Triassic age which is the top layer of rock seen from the Visitor Center and first overlook. It has been eroded completely away from most of the rim.

SHINARUMP CONGLOMERATE

The Shinarump Conglomerate is composed of stream deposited sediments which make up the rock layer along most of the rim of Canyon de Chelly. This conglomerate, deposited about 170 million years ago during the Triassic Period, yielded the first uranium strikes in this area.

UNCONFORMITY

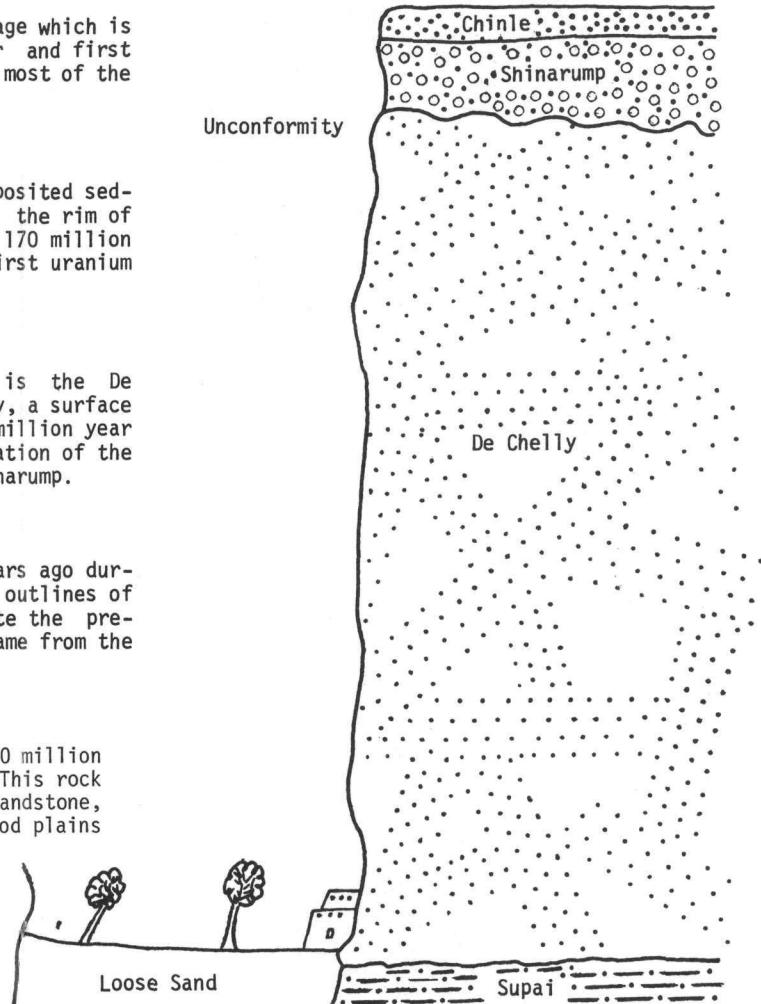
The pinkish rock below the Shinarump Conglomerate is the De Chelly sandstone. The line between is an unconformity, a surface of erosion or non-deposition, and represents a 30 million year gap in the geologic history of the region after formation of the De Chelly sandstone and before deposition of the Shinarump.

DE CHELLE SANDSTONE

The De Chelly sandstone, formed about 200 million years ago during the late Permian Period, still retains the rough outlines of ancient sand dunes. The long, sloping lines indicate the prevailing winds and materials that formed the dunes came from the north.

SUPAI FORMATION

The Supai Formation is Permian in age (about 250 to 280 million years old) are barely visible in the Spide Rock area. This rock consisting of alternating layers of maroon-colored sandstone, siltstone, and mudstone, was deposited on low, flat flood plains which covered most of northeastern Arizona at a time when 10 foot (3m) amphibians were the dominant life form.





Pinyon (*Pinus edulis*)

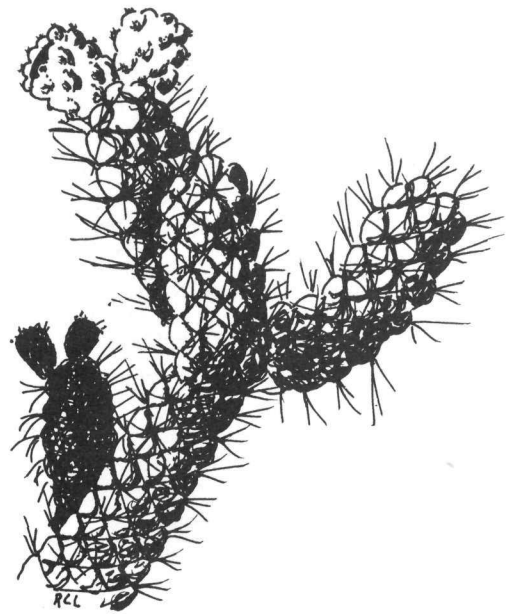
This pine is a source of food, fuel, and building materials. The well-flavored seeds are eaten, and the resin is used to water-proof water bottles.

The trees are straggly in growth, with usually short and often crooked trunks, attaining a height of 35 feet (10.7 m) and a trunk diameter of 30 inches (76 cm), but usually are smaller. They are found at elevations of 4,000 (1220 m) to 7,000 feet (2135 m).



Tamarix (*Tamarix pentandra*)

The tamarix was introduced from Eurasia to control erosion. It bears deep-pink to nearly white flowers, from which much honey is obtained, and is common along Arizona streams.



Cholla or Cane Cactus (*Opuntia* sp.)

The yellowish structures on the stems of this cactus are fruit, which persists long after flowering. It bears greenish-yellow flowers in summer.



Pricklypear (*Opuntia* sp.)

This flat-jointed cactus increases rapidly on over grazed land, and becomes a pest. Its fruit, or tuna, is edible.



Rabbitbrush (*Chrysothamnus nauseosus*)

The rabbitbrush bears masses of small, yellow blossoms in September. A yellow dye is made from its flowers and green dye from its inner bark.



Snakeweed (*Gutierrezia sarothrae*)

The presence of this plant in abundance is a sure sign that the land is over grazed. In late summer and fall it bears small yellow flowers.

number of illustrations to help acquaint you with common plants found in the several *life zones* of Canyon de Chelly National Monument.

MILE 5.7 — Turn-off to White House Overlook

MILE 6.4 — White House Overlook

Across the canyon from this overlook are the remains of a once active village of perhaps 100 or more persons. WHITE HOUSE RUIN is comprised of rooms built in the cave and the multi-storied masonry pueblo below, once high enough to provide access to the cave by ladders, from roofs of the lower building. Tree-ring dates from roof logs indicate the first building activity around A.D. 1060, with some building additions as late as A.D. 1275. The village probably was in its heyday about 800 years ago.

The ancient people who lived here planted crops and tilled the soil in the canyon bottom much as the Navajo do today. Of course, they did not have sheep, horses, and other domesticated stock as these were introduced by the Spaniards during the 1600's and 1700's. In addition to their crops they gathered various fruits and nuts from wild plants, and hunted venison and rabbit with bow and arrow to supplement their diet. They exploited other plants for fiber to make cordage, for material to make mats and baskets, for medicinal use, and for dyes and other purposes.

A trail to White House ruin begins at a point about 150 yards (137m) to your right (up the

rim) as you face the canyon. You are welcome to hike this trail without a guide. The one-way distance from rim to ruin is 1-1/4 miles (2km), with an elevation change of about 500 feet (152m). There is no drinking water at the ruin or along the trail. Allow 1-1/2 to 2 hours for the round trip.

All hiking in the canyon bottom, except down White House trail directly to White House ruins, *requires* an authorized guide.

Canyon de Chelly is known for its scenic beauty. Litter mars that beauty. Will you help? Pick up a bit of litter and take it to the nearest trash can. Many who visit here will appreciate it.

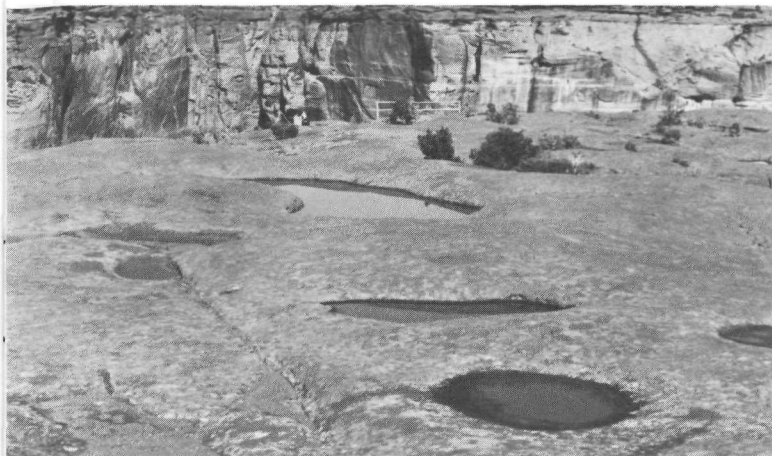
MILE 11.0 — Old Hogan and Sliding Rock turn-off

CAUTION: Pull well off the paved road if you stop here.

At this junction is a ruined hogan. Many Navajos presently live in hogans of this type construction. By building a many-sided structure like this, short logs can be arranged to produce a maximum amount of interior floor space. The roof was once covered with a heavy coating of mud. This structure is fragile. Do not go inside the fenced area for any reason.

MILE 12.9 — Sliding Rock Overlook

Thin gravel deposits overlying the sandstone here are remnants of the Shinarump Conglomerate. Streams that crossed this area millions



Natural Sandstone Basins hold water After Summer Storms.

of years ago deposited the gravels at a time when dinosaurs roamed the countryside.

Shallow basins, eroded out of the sandstone surface, collect much water during summer rainstorms. The largest cavities may hold water for several weeks, or from one storm to the next, and in some cases communities of aquatic insects develop within them. Following rainstorms Navajos sometimes gather fresh water from these natural basins.

SLIDING ROCK RUIN on the narrow ledge across the canyon, is aptly named. The sloping floor of the ledge caused construction problems for the Indians. They built retaining walls in an attempt to keep their home from sliding into the canyon. At some time in the future, archeologists will excavate this site in an effort to learn more about the people who lived here. After excavation, it will be stabilized to prevent further deterioration of the walls.

QUESTIONS TO CONSIDER

1. Why don't you see much wildlife in this part of Arizona?
2. What are, and have been, some of man's obvious land-use activities in this region? Can you relate your answer to question number 1?

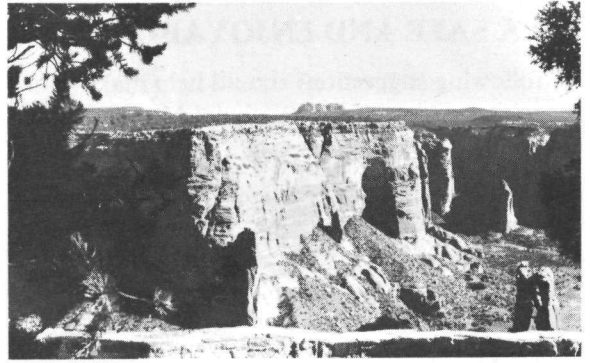
If you are not sure about your answers discuss them with the next Ranger you see.

MILE 21.8 — Spider Rock Overlook (*Follow the path 200 yards (182m) to the overlook*)

The floor of the canyon is about 1,000 feet (305m) below. To the right is Monument Canyon which joins Canyon de Chelly on the left. Spider Rock, 800 feet (244m) high, is the tall monument at the junction of the two canyons. Speaking Rock is to the left on the far side of Canyon de Chelly.

According to a Navajo story told to naughty children, Speaking Rock reports the names of bad boys and girls to Spider Woman who lives atop Spider Rock, whereupon she descends and carries the offending child up to her lair. The white rocks at the top of Spider Rock are said to be the bleached bones of boys and girls who did not listen to Mother and Dad.

With good eyes, or a pair of binoculars, a number of ruins can be seen from this overlook. At the base of Spider Rock are several small Navajo structures. Other ruins, of prehistoric times, are located across the canyon in alcoves and on ledges to the far left of the overlook.



"Black Rock," an ancient volcanic plug as seen from Spider Rock Overlook.

On the horizon, above and a little to the left of Spider Rock, is the prominent peak of Black Rock. It is a volcanic plug, which is the central portion or core of an ancient volcano (another evidence of past environmental variation in this region). The softer part of the outer volcano has been eroded away. Black Rock, composed of a coarse-grained intrusive, igneous rock resembling granite, is less than 70 million years old and probably more than 7 million years old. The formation known as Shiprock, in northwestern New Mexico, had a similar origin.

Spider Rock Overlook is the last stop on the Rim Drive. Return to the Visitor Center by going back along the same road.

We hope you are enjoying your visit here and will have time to see some of the other National Park areas in the Southwest.

FOR A SAFE AND ENJOYABLE VISIT

The following suggestions should help make your visit to Canyon de Chelly National Monument an enjoyable one.

- When leaving your vehicle unattended, **LOCK IT**. The safest place for your valuables is in the trunk. Purses, cameras, binoculars, wallets, etc., should be carried with you, **NOT** left in the vehicle.
- The Navajo reservation has an open range policy. This means livestock are not fenced in and therefore frequently are on the roads. Obey the speed limit and be alert.
- The rim drive overlooks provide excellent views. They also present a potential for falling over the edge. Please remain behind retaining walls and keep children and pets away from the edge.
- Should you experience or observe an accident, theft, or suspicious activity, please contact a ranger as soon as possible.

CALL 602-674-5436



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